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### (54) DOPED QUARTZ GLASS AND ITS PRODUCTION

#### (57)Abstract:

**PURPOSE:** To facilitate the production of a doped quartz glass of homogeneity and a large shape, by dispersing fine particles of silica in an alkyl silicate hydrolyzate, forming sol, after its pH is adjusted, then drying and heating the sol.

**CONSTITUTION:** Alkyl silicate is hydrolyzed using an acidic catalyst, fine particles of silica are dispersed in the hydrolyzate, and the silica dispersion is adjusted in its pH to 3W6. Then, dopants containing at least one elements or dopant solutions are added to the silica dispersion to form a sol. The sol is converted into the gel, the gel is dried, and the dry gel is heated into a glass. The dopants are selected according to the purposes for the doped quartz glass, and the process according to the present invention can use any element substances as a dope.

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